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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,045	06/24/2003	Alvin Jose Joseph	BUR920030004US1	1044

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EXAMINER

NGUYEN, TUAN H

ART UNIT	PAPER NUMBER
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2813

DATE MAILED: 04/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

N.A

Office Action Summary	Application No. 10/604,045	Applicant(s) JOSEPH ET AL.	
	Examiner Tuan H. Nguyen	Art Unit 2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 12-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

This application contains claims 12-20 drawn to an invention nonelected with traverse in Paper dated 11/5/04. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Objections

Claims 1, 9 are objected to because of the following informalities:

In claim 1, last line, "said base" should be changed to -- said emitter--.

In claim 9, last line, "said doped epitaxial layer" should be changed to --said doped epitaxial extrinsic base layer-- for providing proper antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Ryum et al. (US 6,362,066).

See Ryum et al., fig. 5g and related text on col. 9-12 which discloses the claimed bipolar transistor including a substrate having a collector 115; a base layer 120 comprising an undoped Si seed layer, an undoped SiGe epitaxial layer a doped SiGe epitaxial layer, an undoped Si epitaxial layer from the bottom to the top; a doped epitaxial extrinsic base 123b confronting the undoped Si epitaxial layer and having aperture formed therein (col. 10, lines 1-5); an emitter 133 having a lower portion located in the aperture and confronting the undoped epitaxial layer; and a silicide conductor ring 129 formed in the doped extrinsic base layer 123b surrounding the lower portion of the emitter layer 133 (col. 10, lines 6-12).

With respect to claim 2, see col 9, lines 30-36 for the multi-layer base structure including a P+ doped epitaxial intrinsic base layer located between the undoped Si film and the substrate.

With respect to claim 3, fig. 5g shows emitter 133 includes an upper portion distal from the substrate and extending over a portion of the doped epitaxial extrinsic base layer 123b, the conductor ring extending radially out from underneath the upper portion.

With respect to claims 4, 9, col. 10, lines 6-12 discloses the silicidation of the doped extrinsic base layer to form the conductor ring 129.

With respect to claim 5, fig. 5 g shows the thickness of the conductor ring which is less than the thickness of the extrinsic base layer 123a, 123b.

With respect to claims 6, 8, fig. 5g shows the doped extrinsic base layer 123 includes a remnant oxide ring 191 immediately surrounding the lower portion of the emitter 133.

With respect to claim 10, silicide layer 129 is considered as landing pad remnant located on the doped extrinsic base layer 123.

With respect to claim 11, layer 179 of silicon nitride is considered as a nitride spacer located on top of the landing pad remnant as shown in fig. 5g.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Marty et al., and Asai et al. disclose the related bipolar transistor structure.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

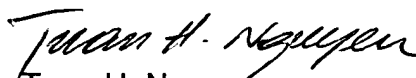
Response to Arguments

Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan H. Nguyen whose telephone number is 571-272-1694. The examiner can normally be reached on 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr. can be reached on 571-272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Tuan H. Nguyen
Primary Examiner
Art Unit 2813